

=> FILE REG

FILE 'REGISTRY' ENTERED AT 10:10:49 ON 13 MAY 2008  
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=> D HIS

FILE 'LREGISTRY' ENTERED AT 08:32:12 ON 13 MAY 2008  
ACT LOE060/Q

L1 STR  
L2 0 S L1

FILE 'REGISTRY' ENTERED AT 08:55:30 ON 13 MAY 2008  
L3 0 S L1

FILE 'HCAPLUS' ENTERED AT 09:33:38 ON 13 MAY 2008  
L4 11867 S LEHMANN ?/AU  
L5 65 S LONSKY ?/AU  
L6 5 S L4 AND L5  
SEL L6 1 RN

FILE 'REGISTRY' ENTERED AT 09:36:03 ON 13 MAY 2008  
L7 51 S E1-E51  
L8 34 S L7 AND SI/ELS  
L9 11 S L8 AND RSD/FA  
L10 4 S L9 AND 3/NRRS  
L11 7 S L9 NOT L10

FILE 'HCAPLUS' ENTERED AT 09:52:32 ON 13 MAY 2008  
L12 9 S L10

FILE 'LREGISTRY' ENTERED AT 09:53:04 ON 13 MAY 2008  
L13 STR L1

FILE 'REGISTRY' ENTERED AT 09:58:08 ON 13 MAY 2008  
L14 0 S L13

FILE 'LREGISTRY' ENTERED AT 10:01:17 ON 13 MAY 2008  
L15 STR L13

FILE 'REGISTRY' ENTERED AT 10:03:00 ON 13 MAY 2008  
L16 1 S L15

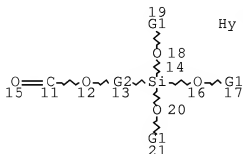
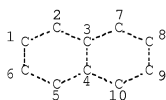
L17 51 S L15 FUL  
 DEL LOE060/Q  
 SAV L17 LOE060/A

FILE 'HCAPLUS' ENTERED AT 10:06:56 ON 13 MAY 2008

L18 25 S L17  
 L19 9 S L18 AND L12  
 L20 9 S L19 OR L12  
 L21 16 S L18 NOT L20  
 L22 8 S 1840-2003/PY,PRY,AY AND L20  
 L23 12 S 1840-2003/PY,PRY,AY AND L21

FILE 'REGISTRY' ENTERED AT 10:10:49 ON 13 MAY 2008

=> D L17 QUE STAT  
 L15 STR



Hy @24 Ak @22 Cb @23

VAR G1=22/23/24  
 REP G2=(1-20) C  
 NODE ATTRIBUTES:  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RING(S) ARE ISOLATED OR EMBEDDED  
 NUMBER OF NODES IS 24

STEREO ATTRIBUTES: NONE  
 L17 51 SEA FILE=REGISTRY SSS FUL L15

100.0% PROCESSED 918 ITERATIONS  
 SEARCH TIME: 00.00.01

51 ANSWERS

=> FILE HCAP  
 FILE 'HCAPLUS' ENTERED AT 10:11:36 ON 13 MAY 2008  
 USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.  
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 COPYRIGHT (C) 2008 AMERICAN CHEMICAL SOCIETY (ACS)

=> D L22 1-8 BIB ABS HITSTR HITIND

L22 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN  
 AN 2005:472204 HCAPLUS  
 DN 143:35205  
 TI Antireflective coatings for via fill and photolithography  
 applications and  
 methods of preparation thereof  
 IN Li, Bo; Kennedy, Joseph; Iwamoto, Nancy; Lu, Victor; Leung, Roger;  
 Fradkin, Mark A.; Hussein, Makarem A.; Goodner, Michael D.  
 PA Honeywell International Inc., USA  
 SO PCT Int. Appl., 120 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005049681	A2	20050602	WO 2004-US38517	
20041117 <--					
	WO 2005049681	A3	20060420		
CH,	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,				
GD,	CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB,				
LC,	GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,				
NI,	LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA,				
SY,	NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL,				
ZW	TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,				
AM,	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,				
	AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE,				

DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT,  
RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,  
MR, NE, SN, TD, TG

US 20050171277 A1 20050804 US 2003-717028  
20031118 <--  
EP 1695142 A2 20060830 EP 2004-811280  
20041117 <--

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,  
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL,  
SK, HR, IS, YU

CN 1902546 A 20070124 CN 2004-80040181  
20041117 <--  
JP 2007520737 T 20070726 JP 2006-541340  
20041117 <--

PRAI US 2003-717028 A 20031118 <--  
WO 2004-US38517 W 20041117

AB An antireflection coating that contains an optical absorber which  
absorbs strongly and uniformly in the UV regions, keeps the  
photoresist from falling over and expanding outside or inside the  
resist region, is imperious to developers and methods of production  
of SOG antireflective coatings, satisfies goals of etching or  
stripping selectivity, minimizes filling bias and voiding in vias,  
forms stable solns. with good shelf life, is compatible with ArF  
photolithog., is applicable using any coating method, is capable of  
via fill and planarization, has good etching rates, and can be used  
in any semiconductor device fabrication process. An absorbing  
composition is described herein that includes at least one inorg.-  
based compound, at least one absorbing compound, and at least one  
material modification agent. Methods of making an absorbing  
composition are also described that includes: (a) combining at least  
one inorg.-based compound, at least one absorbing compound, at least  
one material modification agent, an acid/H<sub>2</sub>O mixture, and one or more  
solvents to form a reaction mixture; and (b) allowing the reaction  
mixture to form the absorbing composition at room temperature  
Another method of making an absorbing composition includes: (a)  
combining at least one inorg.-based compound, at least one absorbing  
compound, at least one material modification agent, an acid/H<sub>2</sub>O  
mixture, and one or more solvents to form a reaction mixture; and (b)  
heating the reaction mixture to form the absorbing composition Yet  
another method of making an absorbing composition is described that  
includes: (a) combining at least one inorg.-based compound, at least  
one absorbing compound, at least one material modification agent, and

one or more solvents to form a reaction mixture, wherein the at least one material modification agent comprises at least one acid and H<sub>2</sub>O; and (b) heating the reaction mixture to form an absorbing material, a coating or a film. In other methods of making an absorbing composition described herein, those methods include: (a) combining at least one inorg.-based compound, at least one absorbing compound, at least one material modification agent, and one or more solvents to form a reaction mixture, wherein the at least one material modification agent comprises at least one acid and H<sub>2</sub>O; and (b) allowing the reaction mixture to form an absorbing material, a coating or a film.

IT 313482-99-4 639088-18-9

RL: TEM (Technical or engineered material use); USES (Uses)

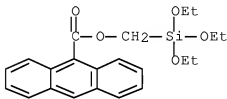
(antireflective coatings for via fill and photolithog.

applications and

methods of preparation for device fabrication)

RN 313482-99-4 HCAPLUS

CN 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester (CA INDEX NAME)

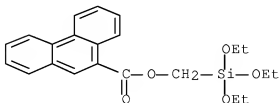


RN 639088-18-9 HCAPLUS

CN 9-Phenanthrenecarboxylic acid, (triethoxysilyl)methyl ester (CA

INDEX

NAME)



IC ICM C08G  
 CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other  
 Reprographic Processes)  
 Section cross-reference(s): 76  
 IT 71-43-2D, Benzene, reactive derivs. 72-48-0, Alizarin 75-59-2,  
 Tetramethylammonium hydroxide 78-10-4, TEOS 81-64-1, Quinizarin  
 84-60-6, Anthraflavic acid 633-00-1, Rosolic acid 723-62-6,  
 9-Anthracenecarboxylic acid 780-69-8, Phenyltriethoxysilane  
 1343-98-2D, Silicic acid, derivs. 1468-95-7, 9-Anthracenemethanol  
 7440-21-3D, Silicon, compds. 8064-60-6, C.I. Direct Yellow 59  
 9003-53-6D, Polystyrene, derivs. 9005-12-3, Methylphenylsiloxane  
 10581-12-1, Tetramethylammonium acetate 16722-51-3, Tosylate, uses  
 25322-68-3, Polyethylene oxide 29355-26-8, Phenylazophenol 37114-  
 85-5,  
 Cetyltrimethylammonium nitrate 37181-39-8, Triflate 38542-94-8,  
 Ammonium triflate 51374-75-5, Cetyltrimethylammonium acetate  
 79876-59-8, 2-Hydroxy-4-(3-triethoxysilylpropoxy)-diphenyl ketone  
 313482-99-4 442905-54-6 442905-55-7 639088-18-9  
 846606-04-0  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (antireflective coatings for via fill and photolithog.  
 applications and  
 methods of preparation for device fabrication)

L22 ANSWER 2 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN  
 AN 2004:708028 HCAPLUS Full-text  
 DN 142:269244  
 TI Antireflective spin coating material for photolithography  
 IN Baldwin, Teresa; Kennedy, Joseph  
 PA Honeywell International Inc., USA  
 SO Taiwan, 10 pp.  
 CODEN: TWXXA5  
 DT Patent  
 LA Chinese  
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI TW 570964	B	20040111	TW 2001-90131682	
20011220 <--				
PRAI US 2001-335264P	P	20011115	<--	
AB	Antireflective coating materials for UV photolithog. include at least one absorbing compds. and at least one pH tuning agent that are incorporated into the materials which can be spin coated. Suitable absorbing compds. are those that absorb around wavelengths such as 365 nm, 248 nm, 193 nm and 157 nm that maybe used in photolithog.			

Suitable pH tuning agents not only adjust the pH of the final coating composition, but also influence the chemical performance and characteristics, mech. performance and structural makeup of the final spin-on composition that is part of the layered material, electronic component or semiconductor component, such that the final spin-on composition is more compatible with the resist material that is coupled to it. More specifically, the pH tuning agent strongly influences the polymeric characteristics, the structural makeup and the spatial orientation that results in increasing the surface properties of the anti-reflective coating for optimal resist performance. In other words, a pH tuning agent that merely adjusts the pH of the spin-on material without influencing the mech. properties and structural makeup of the spin-on composition or the coupled resist material is not contemplated herein. A method of making absorbing and pH tuned spin-on materials includes combining at least one organic absorbing compound and at least one pH tuning agent with at least one silane reactant during synthesis of the spin-on materials and compns.

IT 639088-18-9

RL: MOA (Modifier or additive use); USES (Uses)

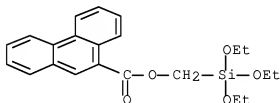
(antireflective spin coating material for photolithog.)

RN 639088-18-9 HCAPLUS

CN 9-Phenanthrenecarboxylic acid, (triethoxysilyl)methyl ester (CA

INDEX

NAME)



IC ICM C09D005-00

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 42

IT 81-64-1, 1,4-Dihydroxyanthraquinone 84-60-6 603-45-2 723-62-6,  
9-Anthracenecarboxylic acid 780-69-8, Phenyltriethoxysilane 1468-

95-7,  
9-Hydroxymethylantracene 1689-82-3 5025-12-7 79876-59-8  
442905-54-6 442905-55-7 639088-18-9 846606-03-9  
846606-04-0

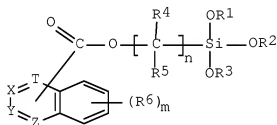
RL: MOA (Modifier or additive use); USES (Uses)  
(antireflective spin coating material for photolithog.)

L22 ANSWER 3 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 2004:2893 HCAPLUS Full-text  
DN 140:59780  
TI Preparation of silyl alkyl esters of anthracene- and phenanthrene  
carboxylic acids as anti-reflective layers for photolithographic  
applications  
IN Lehmann, Lutz Uwe; Lonsky, Ralph  
PA Honeywell Specialty Chemicals Seelze G.m.b.H., Germany  
SO PCT Int. Appl., 40 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004000853	A1	20031231	WO 2003-EP6534	
20030620 <--				
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CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE,				
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,				
LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ,				
OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN,				
TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,				
BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,				
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK,				
TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,				
TG				
DE 10227807	A1	20040122	DE 2002-10227807	
20020621 <--				
AU 2003242741	A1	20040106	AU 2003-242741	
20030620 <--				
EP 1539771	A1	20050615	EP 2003-760669	
20030620 <--				
EP 1539771	B1	20061227		



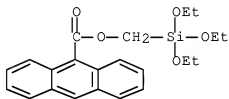
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 PT,  
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK  
 CN 1662546 A 20050831 CN 2003-814421  
 20030620 <--  
 JP 2005535616 T 20051124 JP 2004-514820  
 20030620 <--  
 AT 349454 T 20070115 AT 2003-760669  
 20030620 <--  
 US 20060052569 A1 20060309 US 2005-518060  
 20050906 <--  
 PRAI DE 2002-10227807 A 20020621 <--  
 WO 2003-EP6534 W 20030620 <--  
 OS CASREACT 140:59780; MARPAT 140:59780  
 GI



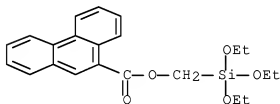
I

AB The invention relates to the preparation of silyl alkyl esters I (R1, R2, R3 = same or different alkyl, aryl, heteroaryl; R4, R5 = same or different H, halo, alkyl, aryl, heteroaryl; n = 1-10; R6 = halo, alkyl, aryl, heteroaryl, OH, alkoxy, aryl ether, (un)substituted amino, carboxy, carboxy, carboxylic amido, sulfonic acid ester, sulfonyl, thio, thioether, nitro, etc.; m = 0-4; T, X, Y, Z = C, a benzo group, which is substituted m-fold with R6 or unsubstituted, is condensed on the bonds T-X, X-Y, or Y-Z to form a trinuclear aromatic ring system, etc.), in particular of anthracene and phenanthrene carboxylic acids, a process for their preparation, compns. and polysiloxane compns. which contain the silyl alkyl esters and which can be used in particular in the semiconductor industry for the preparation of anti-reflective layers for photolithog. applications.  
 IT 313482-93-4P 639038-13-9P 639088-19-0P  
 639088-20-3P

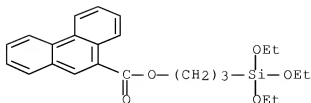
RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (preparation of silyl alkyl esters of anthracene and phenanthrene carboxylic acids as anti-reflective layers for photolithog. applications)  
 RN 313482-99-4 HCAPLUS  
 CN 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester (CA INDEX NAME)



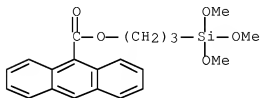
RN 639088-18-9 HCAPLUS  
 CN 9-Phenanthrenecarboxylic acid, (triethoxysilyl)methyl ester (CA INDEX NAME)



RN 639088-19-0 HCAPLUS  
 CN 9-Phenanthrenecarboxylic acid, 3-(triethoxysilyl)propyl ester (CA INDEX NAME)



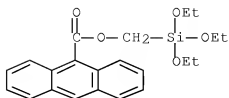
RN 639088-20-3 HCAPLUS  
 CN 9-Anthracenecarboxylic acid, 3-(trimethoxysilyl)propyl ester (CA  
 INDEX  
 NAME)



IC ICM C07F007-18  
 CC 29-7 (Organometallic and Organometalloidal Compounds)  
 Section cross-reference(s): 37, 76  
 IT 313482-99-4P 639088-18-9P 639088-19-0P  
 639088-20-3P  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered  
 material  
 use); PREP (Preparation); USES (Uses)  
 (preparation of silyl alkyl esters of anthracene and phenanthrene  
 carboxylic  
 acids as anti-reflective layers for photolithog. applications)  
 RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 4 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN  
 AN 2003:570019 HCAPLUS Full-text  
 DN 140:243463  
 TI Anthracene-organosiloxane spin-on antireflective coating for KrF  
 lithography  
 AU Kennedy, Joseph; Baldwin-Hendricks, Teri; Hebert, Mello; Suedmeyer,  
 Arlene

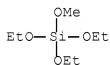
CS Honeywell, Sunnyvale, CA, 94089, USA  
SO Proceedings of SPIE-The International Society for Optical Engineering  
( 2003), 5039(Pt. 1, Advances in Resist Technology and Processing  
XX), 144-151  
CODEN: PSISDG; ISSN: 0277-786X  
PB SPIE-The International Society for Optical Engineering  
DT Journal  
LA English  
AB A sacrificial, spin-on 248 nm UV absorbing organosiloxane film has  
been developed to enable via first trench last (VFTL) dual-damascene  
patterning. Amongst other design objectives one key material  
requirement was that the film be SiO based to facilitate trench etch.  
Because the starting organosiloxane polymer is transparent a  
chromophores that absorbs at 248 nm had to be included. Anthracene  
was selected as it offered the largest amount of absorption per mol.  
Unfortunately, com. available anthracene moieties with different  
functional groups when added directly to the organosiloxane polymer  
solution resulted in films of very marginal quality. The primary  
issue was the poor solubility and thermal stability of the anthracene  
compound within the organosiloxane matrix. To address this  
fundamental problem the chromophore was stabilized by chemical  
attaching it to Et orthosilicate. The resulting mol., 9-anthracene  
carboxymethyltriethoxysilane (TESAC) was developed. By combining the  
appropriate amts. of TESAC, TEOS and other organo-TEOS monomers with  
the appropriate solvents and a catalyst a stable, 248 nm light  
absorbing anthracene-organosiloxane polymer was developed. This work  
has led to the development of Duo248 organosiloxane based bottom  
antireflective coatings. Topics such as the development of TESAC,  
lithog., plasma etch and selective removal will be discussed.  
IT 650634-87-0  
RL: TEM (Technical or engineered material use); USES (Uses)  
(Duo 248; lithog. properties of anthracene-organosiloxane bottom  
antireflective coating for 248 nm lithog.)  
RN 650634-87-0 HCAPLUS  
CN 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester, polymer  
with  
silicic acid (H4SiO4) tetraethyl ester and silicic acid (H4SiO4)  
triethyl  
methyl ester (CA INDEX NAME)  
CM 1  
CRN 313482-99-4  
CMF C22 H26 O5 Si



CM 2

CRN 18395-48-7

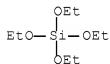
CMF C7 H18 O4 Si



CM 3

CRN 78-10-4

CMF C8 H20 O4 Si

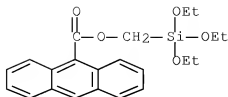


IT 313482-99-4

RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)  
(monomer; design of spin-on 248 nm UV absorbing anthracene-  
organosiloxane film for bottom antireflective coatings)

RN 313482-99-4 HCAPLUS

CN 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester (CA INDEX  
NAME)



CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 76

IT 650634-87-0

RL: TEM (Technical or engineered material use); USES (Uses)  
(Duo 248; lithog. properties of anthracene-organosiloxane bottom antireflective coating for 248 nm lithog.)

IT 313482-99-4

RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)  
(monomer; design of spin-on 248 nm UV absorbing anthracene-organosiloxane film for bottom antireflective coatings)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 5 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2003:41795 HCAPLUS Full-text

DN 139:8200

TI Spin-on-glass antireflective coatings for photolithography

IN Baldwin-Hendricks, Teresa; Kennedy, Joe; Richey, Mary

PA Honeywell International Inc., USA

SO PCT Int. Appl., 63 pp., Added priority US2001-PV335259 w/ date 2001-11-15

to prevent further basic probl

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI WO 2003044077 A1 20030530 WO 2001-US43831

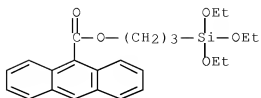
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RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC,

NL,

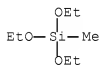
PT, SE, TR  
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 JP 2005509710 T 20050414 JP 2003-545711  
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 TW 260330 B 20060821 TW 2002-91133510  
 20021115 <--  
 KR 818678 B1 20080401 KR 2004-707541  
 20040517 <--  
 PRAI US 2001-335259P P 20011115 <--  
 WO 2001-US43831 W 20011116 <--  
 AB A siloxane polymer family comprising siloxane polymer made from (a) a  
 strongly UV absorbing phenylalkoxysilane, (b)  $\geq 1$  silane having good  
 leaving groups, and (c)  $\geq 1$  silane having good leaving groups that is  
 different than (b), where the siloxane polymer exhibits a nonlinear  
 relationship, that is concave/convex or is located in the region  
 enclosed by a concave/convex relation, between the ratio of  
 (a):(b):(c) and the siloxane polymer's extinction coefficient k  
 value. These siloxane polymers are preferably used as spin-on glass  
 compns. for films in the microelectronics applications.  
 IT 442905-62-6F, 9-Anthracenylcarboxypropyltriethoxysilane-  
 methyltriethoxysilane-tetraethoxysilane copolymer  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or  
 engineered material use); PREP (Preparation); USES (Uses)  
 (film; spin-on-glass antireflective coatings for mask used in  
 microelectronics applications)  
 RN 442905-62-6 HCAPLUS  
 CN 9-Anthracenecarboxylic acid, 3-(triethoxysilyl)propyl ester, polymer  
 with  
 silicic acid (H4SiO4) tetraethyl ester and triethoxymethylsilane  
 (9CI)  
 (CA INDEX NAME)  
 CM 1  
 CRN 442905-57-9  
 CMF C24 H30 O5 Si



CM 2

CRN 2031-67-6

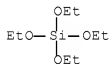
CMF C7 H18 O3 Si



CM 3

CRN 78-10-4

CMF C8 H20 O4 Si



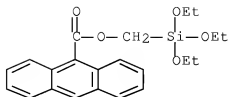
IT 313482-99-4P 442905-58-0P 442905-59-1P

RL: IMF (Industrial manufacture); PREP (Preparation)  
(spin-on-glass antireflective coatings for mask used in  
microelectronics applications)

RN 313482-99-4 HCAPLUS

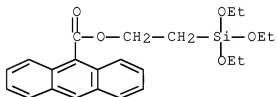
CN 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester (CA INDEX  
NAME)





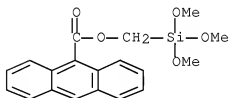
RN 442905-58-0 HCAPLUS

CN 9-Anthracenecarboxylic acid, 2-(triethoxysilyl)ethyl ester (CA INDEX NAME)



RN 442905-59-1 HCAPLUS

CN 9-Anthracenecarboxylic acid, (trimethoxysilyl)methyl ester (CA INDEX NAME)



IT 442905-57-9P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation);

RACT (Reactant or reagent)

(spin-on-glass antireflective coatings for mask used in

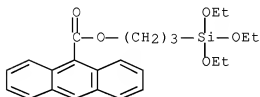
microelectronics applications)

RN 442905-57-9 HCAPLUS

CN 9-Anthracenecarboxylic acid, 3-(triethoxysilyl)propyl ester (CA

INDEX

NAME)



IC ICM C08G077-02

CC 42-5 (Coatings, Inks, and Related Products)

Section cross-reference(s): 74, 76

IT 162746-16-9P, Phenyltriethoxysilane-methyltriethoxysilane-tetraethoxysilane copolymer 442905-62-6P, 9-Anthracenylcarboxypropyltriethoxysilane-methyltriethoxysilane-tetraethoxysilane copolymer

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(film; spin-on-glass antireflective coatings for mask used in microelectronics applications)

IT 313482-99-4P 442905-58-0P 442905-59-1P

RL: IMF (Industrial manufacture); PREP (Preparation)

(spin-on-glass antireflective coatings for mask used in microelectronics applications)

IT 442905-57-9P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation);

RACT

(Reactant or reagent)

(spin-on-glass antireflective coatings for mask used in microelectronics applications)

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 6 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2003:35308 HCAPLUS Full-text

DN 138:98200

TI Spin-on-glass anti-reflective coating for photolithography

IN Kennedy, Joseph; Baldwin, Teresa; Hacker, Nigel P.; Spear, Richard

PA Honeywell International Inc., USA

SO U.S., 13 pp., Cont.-in-part of U.S. 6,268,457.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 5

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	NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,				
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	UA, UG, UZ, VN, YU, ZW				
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BJ,					
	CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
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20011115 <--					
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	US 20020128388	A1	20020912	US 2002-76846	
20020214 <--					
	US 6956097	B2	20051018		
	US 20030120018	A1	20030626	US 2002-300357	
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	US 6969753	B2	20051129		
	US 20050245717	A1	20051103	US 2005-178544	

20050711 <--

KR 804873

B1

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KR 2006-715525

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PRAI US 1999-330248

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US 2000-491166

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WO 2000-US15772

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US 2000-698883

A2

20001027 <--

KR 2001-715888

A3

20011210 <--

US 2002-76846

A3

20020214 <--

US 2002-300357

A3

20021119 <--

AB Anti-reflective coating materials for deep UV photolithog. include one or more organic light-absorbing compds. incorporated into spin-on-glass materials. Suitable absorbing compds. are strongly absorbing over wavelength ranges around wavelengths such as 365 nm, 248 nm, and 193 nm that may be used in photolithog. A method of making absorbing spin-on-glass materials includes combining one or more organic absorbing compds. with alkoxysilane or halosilane reactants during synthesis of the spin-on-glass materials.

IT 313482-99-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);

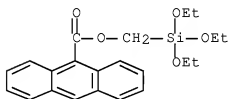
RACT

(Reactant or reagent)

(in preparation of spin-on-glass anti-reflective coatings for photolithog.)

RN 313482-99-4 HCAPLUS

CN 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester (CA INDEX NAME)



IT 442905-69-3P 442905-76-2P 442905-77-3P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(spin-on-glass anti-reflective coatings for photolithog.)

RN 442905-69-3 HCAPLUS

CN 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester, polymer  
with  
silicic acid (H4SiO4) tetraethyl ester and triethoxymethylsilane

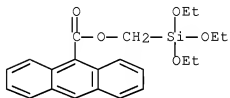
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(CA INDEX NAME)

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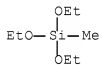
CMF C22 H26 O5 Si



CM 2

CRN 2031-67-6

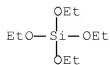
CMF C7 H18 O3 Si



CM 3

CRN 78-10-4

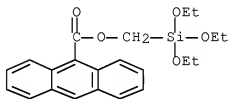
CMF C8 H20 O4 Si



RN 442905-76-2 HCAPLUS  
CN 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester, polymer  
with trichloromethylsilane and trichlorosilane (9CI) (CA INDEX NAME)

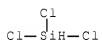
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CRN 313482-99-4  
CMF C22 H26 O5 Si



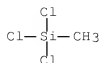
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CMF C13 H Si



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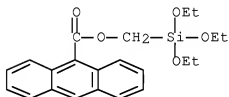
CRN 75-79-6  
CMF C H3 Cl3 Si



RN 442905-77-3 HCAPLUS  
 CN 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester, polymer  
 with triethoxysilane (9CI) (CA INDEX NAME)

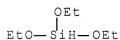
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CRN 313482-99-4  
 CMF C22 H26 O5 Si



CM 2

CRN 998-30-1  
 CMF C6 H16 O3 Si



IC ICM B32B009-04  
 INCL 428447000; 528031000; 528034000; 528028000; 528026000; 528029000;  
 523137000; 106287110; 106287130; 106287140  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
 Reprographic Processes)

Section cross-reference(s): 38, 42  
 IT 313482-99-4P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
 RACT (Reactant or reagent)  
 (in preparation of spin-on-glass anti-reflective coatings for  
 photolithog.)  
 IT 72-48-ODP, Alizarin, reaction products with silane derivs. 1468-95-  
 7DP,  
 9-Anthracene methanol, reaction products with silane derivs.  
 88029-70-3DP, Methyltriethoxysilane-tetraethoxysilane copolymer,  
 reaction  
 products with 9-anthracene methanol 113923-94-7P,  
 Phenyltriethoxysilane-  
 tetraethoxysilane copolymer 162746-16-9P, Methyltriethoxysilane-  
 phenyltriethoxysilane-tetraethoxysilane copolymer 442905-63-7P  
 442905-69-3P 442905-76-2P 442905-77-3P  
 442905-78-4P 484638-70-2DP, reaction products with 9-anthracene  
 methanol  
 and alizarine 484638-71-3DP, reaction products with 9-anthracene  
 methanol and alizarin  
 RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or  
 engineered material use); PREP (Preparation); USES (Uses)  
 (spin-on-glass anti-reflective coatings for photolithog.)  
 RE.CNT 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 7 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN  
 AN 2002:540266 HCAPLUS Full-text  
 DN 137:110586  
 TI Compositions, application, and spin-on-glass antireflective coatings  
 for  
 photolithography  
 IN Baldwin, Teresa; Kennedy, Joseph; Hacker, Nigel; Spear, Richard  
 PA Honeywell International Inc., USA  
 SO U.S. Pat. Appl. Publ., 25 pp., Cont.-in-part of U.S. 6,268,457.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
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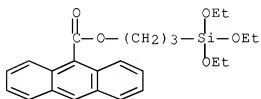
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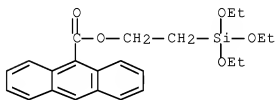
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 PH,                                  PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT,  
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CN 1615332 A 20050511 CN 2002-827150  
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US 2000-491166 A2 20000126 <--  
US 2000-698883 A2 20001027 <--  
US 2001-1143 A 20011115 <--  
WO 2001-US45306 A 20011115 <--  
WO 2002-US35101 W 20021031 <--  
WO 2002-US36327 W 20021112 <--  
AB Antireflective coating materials for UV photolithog. include  $\geq 1$   
organic light-absorbing compound incorporated into spin-on-glass  
materials. Suitable absorbing compds. are strongly absorbing <375 nm  
that may be used in photolithog., where  $\geq 1$  of the silicon-based  
compound or the organic absorbing compound comprises an alkyl group,  
an alkoxy group, a ketone group, or an azo group. An additive of  $\geq 1$   
(reactive) organic absorbing compound is mixed with alkoxy silane or  
halosilane reactants during synthesis of the spin-on-glass materials.  
IT 442905-57-9P 442905-58-0P 442905-59-1P  
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or  
engineered material use); PREP (Preparation); RACT (Reactant or  
reagent);  
USES (Uses)  
(light absorbent; spin-on-glass anti-reflective coatings for  
photolithog.)  
RN 442905-57-9 HCAPLUS

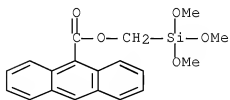
CN 9-Anthracenecarboxylic acid, 3-(triethoxysilyl)propyl ester (CA  
INDEX  
NAME)



RN 442905-58-0 HCAPLUS  
CN 9-Anthracenecarboxylic acid, 2-(triethoxysilyl)ethyl ester (CA INDEX  
NAME)



RN 442905-59-1 HCAPLUS  
CN 9-Anthracenecarboxylic acid, (trimethoxysilyl)methyl ester (CA INDEX  
NAME)



IT 313482-99-4P, 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl  
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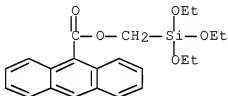
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent);

USES (Uses)

(spin-on-glass anti-reflective coatings for photolithog.)

RN 313482-99-4 HCAPLUS

CN 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester (CA INDEX NAME)



IT 442905-61-5P 442905-62-6P 442905-65-9P  
442905-66-0P 442905-67-1P 442905-68-2P  
442905-69-3P 442905-70-6P 442905-71-7P  
442905-73-9P 442905-75-1P 442905-76-2P  
442905-77-3P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)

(spin-on-glass coating; spin-on-glass anti-reflective coatings for photolithog.)

RN 442905-61-5 HCAPLUS

CN 9-Anthracenecarboxylic acid, 2-(trimethoxysilyl)ethyl ester, polymer with

silicic acid (H4SiO4) tetraethyl ester and triethoxymethylsilane

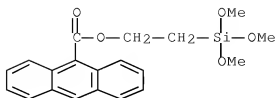
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(CA INDEX NAME)

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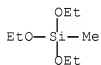
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CM 2

CRN 2031-67-6

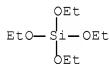
CMF C7 H18 O3 Si



CM 3

CRN 78-10-4

CMF C8 H20 O4 Si



RN 442905-62-6 HCAPLUS

CN 9-Anthracenecarboxylic acid, 3-(triethoxysilyl)propyl ester, polymer with

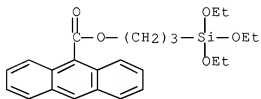
silicic acid (H4SiO4) tetraethyl ester and triethoxymethylsilane (9CI)

(CA INDEX NAME)

CM 1

CRN 442905-57-9

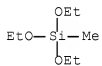
CMF C24 H30 O5 Si



CM 2

CRN 2031-67-6

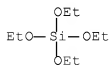
CMF C7 H18 O3 Si



CM 3

CRN 78-10-4

CMF C8 H20 O4 Si

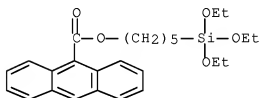


RN 442905-65-9 HCAPLUS

CN 9-Anthracenecarboxylic acid, 5-(triethoxysilyl)pentyl ester, polymer  
 with silicic acid (H4SiO4) tetraethyl ester and triethoxymethylsilane  
 (9CI)  
 (CA INDEX NAME)

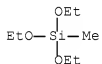
CM 1

CRN 442905-64-8  
 CMF C26 H34 O5 Si



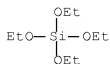
CM 2

CRN 2031-67-6  
 CMF C7 H18 O3 Si



CM 3

CRN 78-10-4  
 CMF C8 H20 O4 Si



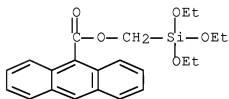
RN 442905-66-0 HCAPLUS

CN 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester, polymer  
with  
silicic acid (H4SiO4) tetramethyl ester and trimethoxymethylsilane  
(9CI)  
(CA INDEX NAME)

CM 1

CRN 313482-99-4

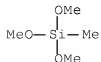
CMF C22 H26 O5 Si



CM 2

CRN 1185-55-3

CMF C4 H12 O3 Si

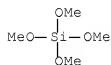




CM 3

CRN 681-84-5

CMF C4 H12 O4 Si



RN 442905-67-1 HCAPLUS

CN 9-Anthracenecarboxylic acid, 2-(triethoxysilyl)ethyl ester, polymer  
with

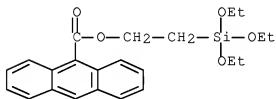
silicic acid ( $\text{H}_4\text{SiO}_4$ ) tetramethyl ester and trimethoxymethylsilane  
(9CI)

(CA INDEX NAME)

CM 1

CRN 442905-58-0

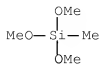
CMF C23 H28 O5 Si



CM 2

CRN 1185-55-3

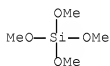
CMF C4 H12 O3 Si



CM 3

CRN 681-84-5

CMF C4 H12 O4 Si



RN 442905-68-2 HCAPLUS

CN 9-Anthracenecarboxylic acid, (trimethoxysilyl)methyl ester, polymer  
with

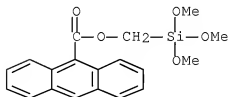
silicic acid (H4SiO4) tetramethyl ester and trimethoxymethylsilane  
(9CI)

(CA INDEX NAME)

CM 1

CRN 442905-59-1

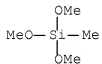
CMF C19 H20 O5 Si



CM 2

CRN 1185-55-3

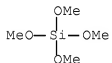
CMF C4 H12 O3 Si



CM 3

CRN 681-84-5

CMF C4 H12 O4 Si



RN 442905-69-3 HCAPLUS

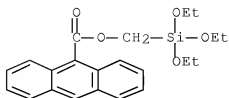
CN 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester, polymer  
with  
silicic acid (H<sub>4</sub>SiO<sub>4</sub>) tetraethyl ester and triethoxymethylsilane  
(9CI)

(CA INDEX NAME)

CM 1

CRN 313482-99-4

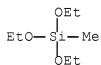
CMF C22 H26 O5 Si



CM 2

CRN 2031-67-6

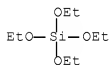
CMF C7 H18 O3 Si



CM 3

CRN 78-10-4

CMF C8 H20 O4 Si



RN 442905-70-6 HCAPLUS

CN 9-Anthracenecarboxylic acid, 2-(triethoxysilyl)ethyl ester, polymer  
with

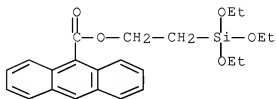
silicic acid (H4SiO4) tetraethyl ester and triethoxymethylsilane  
(9CI)

(CA INDEX NAME)

CM 1

CRN 442905-58-0

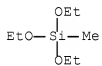
CMF C23 H28 O5 Si



CM 2

CRN 2031-67-6

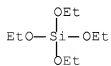
CMF C7 H18 O3 Si



CM 3

CRN 78-10-4

CMF C8 H20 O4 Si

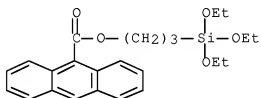


RN 442905-71-7 HCAPLUS

CN 9-Anthracenecarboxylic acid, 3-(triethoxysilyl)propyl ester, polymer  
 with silicic acid (H<sub>4</sub>SiO<sub>4</sub>) tetramethyl ester and trimethoxymethylsilane  
 (9CI)  
 (CA INDEX NAME)

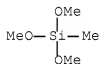
CM 1

CRN 442905-57-9  
 CMF C24 H30 O5 Si



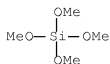
CM 2

CRN 1185-55-3  
 CMF C4 H12 O3 Si



CM 3

CRN 681-84-5  
 CMF C4 H12 O4 Si



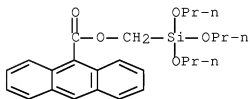
RN 442905-73-9 HCAPLUS

CN 9-Anthracenecarboxylic acid, (tripropoxysilyl)methyl ester, polymer  
with  
(9CI) silicic acid (H4SiO4) tetramethyl ester and trimethoxymethylsilane  
(CA INDEX NAME)

CM 1

CRN 442905-72-8

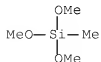
CMF C25 H32 O5 Si



CM 2

CRN 1185-55-3

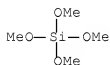
CMF C4 H12 O3 Si



CM 3

CRN 681-84-5

CMF C4 H12 O4 Si



RN 442905-75-1 HCAPLUS

CN 9-Anthracenecarboxylic acid, 2-(tributoxysilyl)ethyl ester, polymer  
with

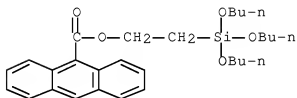
silicic acid ( $\text{H}_4\text{SiO}_4$ ) tetramethyl ester and trimethoxymethylsilane  
(9CI)

(CA INDEX NAME)

CM 1

CRN 442905-74-0

CMF C29 H40 O5 Si

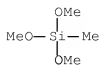


CM 2

CRN 1185-55-3

CMF C4 H12 O3 Si

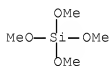




CM 3

CRN 681-84-5

CMF C4 H12 O4 Si



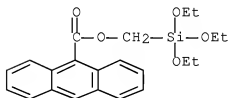
RN 442905-76-2 HCAPLUS

CN 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester, polymer  
with  
trichloromethylsilane and trichlorosilane (9CI) (CA INDEX NAME)

CM 1

CRN 313482-99-4

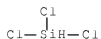
CMF C22 H26 O5 Si



CM 2

CRN 10025-78-2

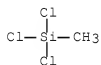
CMF Cl3 H Si



CM 3

CRN 75-79-6

CMF C H3 Cl3 Si



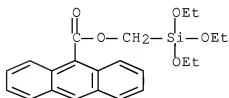
RN 442905-77-3 HCAPLUS

CN 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester, polymer  
with triethoxysilane (9CI) (CA INDEX NAME)

CM 1

CRN 313482-99-4

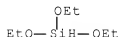
CMF C22 H26 O5 Si



CM 2

CRN 998-30-1

CMF C6 H16 O3 Si



IC ICM C08G077-00

INCL 528039000

CC 42-5 (Coatings, Inks, and Related Products)

Section cross-reference(s): 74

IT 442905-57-9P 442905-58-0P 442905-59-1P

RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent);

USES (Uses)

(light absorbent; spin-on-glass anti-reflective coatings for photolithog.)

IT 313482-99-4P, 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester

RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent);

USES (Uses)

(spin-on-glass anti-reflective coatings for photolithog.)

IT 88029-70-3P, Methyltriethoxysilane-tetraethoxysilane copolymer

113923-94-7P 162746-16-9P 442905-61-5P 442905-62-6P

442905-63-7P 442905-65-9P 442905-66-0P

442905-67-1P 442905-68-2P 442905-69-3P

442905-70-6P 442905-71-7P 442905-73-9P

442905-75-1P 442905-76-2P 442905-77-3P

442905-78-4P 442905-79-5P

RL: IMF (Industrial manufacture); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)

(spin-on-glass coating; spin-on-glass anti-reflective coatings for photolithog.)

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 8 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2000:900926 HCAPLUS Full-text

DN 134:63904  
 TI Spin-on-glass anti-reflective coatings for photolithography  
 IN Spear, Richard; Hacker, Nigel P.; Baldwin, Teresa; Kennedy, Joseph  
 PA AllieSignal Inc., USA  
 SO PCT Int. Appl., 38 pp.  
 CODEN: PIXXD2

DT Patent  
 LA English

FAN.CNT 5

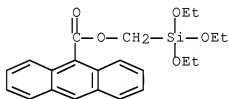
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2000077575	A1	20001221	WO 2000-US15772	
20000608 <--					
DE,	W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ,				
KG,	DK, EE, ES, FI, GB, GE, GH, GM, HU, ID, IL, IN, IS, JP, KE,				
MX,	KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW,				
TT,	NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR,				
CY,	UA, UG, UZ, VN, YU, ZW				
BJ,	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH,				
	DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF,				
	CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
19990610 <--	US 6268457	B1	20010731	US 1999-330248	
20000126 <--	US 6506497	B1	20030114	US 2000-491166	
20000608 <--	CA 2374944	A1	20001221	CA 2000-2374944	
20000608 <--	EP 1190277	A1	20020327	EP 2000-941275	
PT,	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,				
	IE, SI, LT, LV, FI, RO				
20000608 <--	JP 2003502449	T	20030121	JP 2001-503571	
20060731 <--	KR 804873	B1	20080220	KR 2006-715525	
PRAI	US 1999-330248	A	19990610	<--	
	US 2000-491166	A	20000126	<--	
	WO 2000-US15772	W	20000608	<--	
	KR 2001-715888	A3	20011210	<--	

AB Anti-reflective coating materials for deep UV photolithog. include one or more organic light-absorbing compds. incorporated into spin-on-glass materials. Suitable absorbing compds. are strongly absorbing over wavelength ranges around wavelengths such as 365 nm, 248 nm, and 193 nm that may be used in photolithog. A method of making absorbing spin-on-glass materials includes combining one or more organic absorbing compds. with alkoxysilane or halosilane reactants during synthesis of the spin-on-glass materials.

IT 313482-99-4  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (spin-on-glass anti-reflective coatings for photolithog.)

RN 313482-99-4 HCAPLUS

CN 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester (CA INDEX NAME)



IC ICM G03F007-09  
 ICS H01L021-027; C08G077-14; C08G077-50; C07F007-18; C08K005-00;  
 C09D183-04

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 Section cross-reference(s): 42

IT 72-48-0, Alizarin 81-64-1, Quinizarin 633-00-1, Rosolic acid 780-69-8, Phenyltriethoxysilane 1468-95-7, 9-Anthracenemethanol 79876-59-8 313482-99-4  
 RL: TEM (Technical or engineered material use); USES (Uses)  
 (spin-on-glass anti-reflective coatings for photolithog.)

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD  
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> D L23 1-12 BIB ABS HITSTR HITIND

L23 ANSWER 1 OF 12 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2005:490452 HCAPLUS [Full-text](#)

DN 143:51852

TI Selective removal chemistries for sacrificial layers, production and

uses

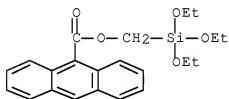
IN Starzynski, John S.  
PA Honeywell International Inc., USA  
SO PCT Int. Appl., 35 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	WO 2005053004	A1	20050609	WO 2004-US38301	
20041117 <--					
CH,	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,				
GD,	CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB,				
LC,	GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,				
NI,	LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA,				
SY,	NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL,				
ZW	TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,				
AM,	RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,				
DK,	AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE,				
RO,	EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT,				
MR,	SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,				
	NE, SN, TD, TG				

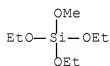
PRAI US 2003-523624P P 20031119 <--

AB Etching solns. described herein include (a)  $\geq 1$  fluorine-based constituent, (b)  $\geq 1$  acid constituent, such as a strong acid in some cases, and (c) a suitable solvent constituent, wherein the etching solution selectively etches at least one sacrificial layer from a surface or layered component. Methods for producing an etching solution include blending  $\geq 1$  fluorine-based constituent, acid constituent and compatible solvent constituent to form a solution, wherein the etching solution selectively etches at least one sacrificial layer from a surface or layered component. More particularly, the method of forming an etching solution includes blending hydrogen fluoride, hydrochloric acid as the acid and propylene carbonate as the solvent.

IT 650634-87-0, DUO248  
 RL: REM (Removal or disposal); PROC (Process)  
 (fluoride compound-containing etching solns. for selective removal  
 of sacrificial layers)  
 RN 650634-87-0 HCAPLUS  
 CN 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester, polymer  
 with silicic acid (H4SiO4) tetraethyl ester and silicic acid (H4SiO4)  
 triethyl methyl ester (CA INDEX NAME)  
 CM 1  
 CRN 313482-99-4  
 CMF C22 H26 O5 Si

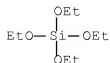


CM 2  
 CRN 18395-48-7  
 CMF C7 H18 O4 Si



CM 3  
 CRN 78-10-4

CMF C8 H20 O4 Si



IC ICM H01L021-00  
ICS H01L021-302  
CC 76-3 (Electric Phenomena)  
Section cross-reference(s): 74  
IT 650634-87-0, DUO248  
RL: REM (Removal or disposal); PROC (Process)  
(fluoride compound-containing etching solns. for selective removal  
of  
sacrificial layers)  
RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 2 OF 12 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 2004:430850 HCAPLUS Full-text  
DN 141:15725  
TI Antireflective silsesquioxane coatings for photolithography and  
methods of  
preparation thereof  
IN Baldwin, Teresa; Kennedy, Joseph; Iwamoto, Nancy; Nakano, Tadashi;  
Bedwell, William; Stuck, Jason; Suedemeyer, Arlene; Hebert, Mello;  
Li, Bo  
PA Honeywell International Inc., USA  
SO PCT Int. Appl., 178 pp.  
CODEN: PIXXD2  
DT Patent  
LA English  
FAN.CNT 5

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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-					
PI	WO 2004044025	A2	20040527	WO 2003-US36354	
20031112 <--					
	WO 2004044025	A3	20040715		
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,				
CN,	CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE,				



GH,  
 LR,  
 OM,  
 TT,  
 RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM,  
 AZ,  
 EE,  
 SK,  
 TD, TG  
 WO 2003044600 A1 20030530 WO 2001-US45306  
 20011115 <--  
 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH,  
 CN,  
 GH,  
 LR,  
 PL,  
 UG,  
 RW: US, UZ, VN, YU, ZA, ZW  
 GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,  
 BY,  
 GB,  
 GA,  
 GN, GQ, GW, ML, MR, NE, SN, TD, TG  
 AU 2002227106 A1 20030610 AU 2002-227106  
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 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,  
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 CN 1606713 A 20050413 CN 2001-823932  
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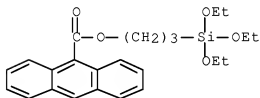
WO 2003044078 A1 20030530 WO 2002-US36327  
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CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE,  
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK,  
LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR,  
TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,  
BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ,  
CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG  
AU 2003295517 A1 20040603 AU 2003-295517  
20031112 <--  
US 20050058929 A1 20050317 US 2004-495688  
20041117 <--  
PRAI WO 2001-US45306 W 20011115 <--  
US 2002-444697P P 20021112 <--  
WO 2002-US36327 A 20021112 <--  
US 2003-509199P P 20031007 <--  
US 2001-1143 A 20011115 <--  
WO 2003-US36354 W 20031112 <--  
AB Antireflective coating materials for UV photolithog. in fabrication  
of semiconductor devices are based on silsesquioxanes having aromatic  
groups that absorb UV light around wavelengths such as 365 nm, 248  
nm, 193 nm, and 157 nm. Optionally, these silsesquioxanes are  
manufactured in the presence of alkoxy silicates and have amine  
groups for control of pH. Optionally, UV absorbing compds. are added  
during the manufacture of the silsesquioxanes. A typical  
silsesquioxane was manufactured by hydrolytic polymerization of TEOS  
2633.78, MeSi(OEt)3 1639.78, and 9-  
anthracenylcarbonyloxymethyltriethoxysilane 958.97 g.  
IT 442905-62-6P, [3-(9-Anthracenylcarbonyloxy)propyl]triethoxysilane-  
methyltriethoxysilane-tetraethoxysilane copolymer 442905-69-3P,  
(9-Anthracenylcarbonyloxymethyl)triethoxysilane-  
methyltriethoxysilane-  
tetraethoxysilane copolymer 694569-45-0P, 3-  
Aminopropyltriethoxysilane-(9-

anthracenylcarbonyloxymethyl)triethoxysilane-  
 methyltriethoxysilane-tetraethoxysilane copolymer  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or  
 engineered material use); PREP (Preparation); USES (Uses)  
 (antireflective silsesquioxane coatings for photolithog. in  
 fabrication  
 of semiconductor devices)  
 RN 442905-62-6 HCAPLUS  
 CN 9-Anthracenecarboxylic acid, 3-(triethoxysilyl)propyl ester, polymer  
 with  
 silicic acid (H4SiO4) tetraethyl ester and triethoxymethylsilane  
 (9CI)  
 (CA INDEX NAME)

CM 1

CRN 442905-57-9

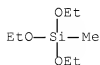
CMF C24 H30 O5 Si



CM 2

CRN 2031-67-6

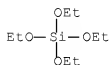
CMF C7 H18 O3 Si



CM 3

CRN 78-10-4

CMF C8 H20 O4 Si



RN 442905-69-3 HCAPLUS

CN 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester, polymer  
with

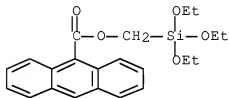
silicic acid (H4SiO4) tetraethyl ester and triethoxymethylsilane  
(9CI)

(CA INDEX NAME)

CM 1

CRN 313482-99-4

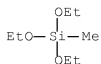
CMF C22 H26 O5 Si



CM 2

CRN 2031-67-6

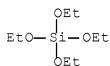
CMF C7 H18 O3 Si



CM 3

CRN 78-10-4

CMF C8 H20 O4 Si



RN 694509-45-0 HCAPLUS

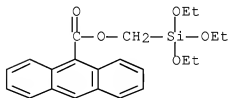
CN 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester, polymer  
with

silicic acid (H<sub>4</sub>SiO<sub>4</sub>) tetraethyl ester, triethoxymethylsilane and  
3-(triethoxysilyl)-1-propanamine (9CI) (CA INDEX NAME)

CM 1

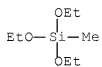
CRN 313482-99-4

CMF C22 H26 O5 Si



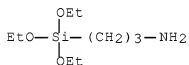
CM 2

CRN 2031-67-6  
 CMF C7 H18 O3 Si



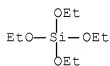
CM 3

CRN 919-30-2  
 CMF C9 H23 N O3 Si



CM 4

CRN 78-10-4  
 CMF C8 H20 O4 Si



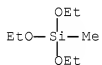
IT 442905-65-9P, [5-(9-Anthracenylcarbonyloxy)pentyl]triethoxysilane-  
 methyltriethoxysilane-tetraethoxysilane copolymer 442905-66-0P,  
 (9-Anthracenylcarbonyloxymethyl)triethoxysilane-  
 methyltrimethoxysilane-



CM 2

CRN 2031-67-6

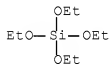
CMF C7 H18 O3 Si



CM 3

CRN 78-10-4

CMF C8 H20 O4 Si



RN 442905-66-0 HCAPLUS

CN 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester, polymer  
with

silicic acid (H4SiO4) tetramethyl ester and trimethoxymethylsilane  
(9CI)

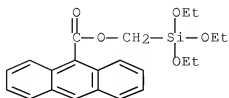
(CA INDEX NAME)

CM 1

CRN 313482-99-4

CMF C22 H26 O5 Si

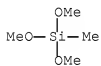




CM 2

CRN 1185-55-3

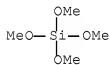
CMF C4 H12 O3 Si



CM 3

CRN 681-84-5

CMF C4 H12 O4 Si



RN 442905-67-1 HCAPLUS

CN 9-Anthracenecarboxylic acid, 2-(triethoxysilyl)ethyl ester, polymer with

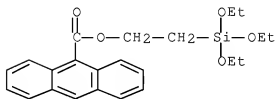
silicic acid (H4SiO4) tetramethyl ester and trimethoxymethylsilane (9CI)

(CA INDEX NAME)

CM 1

CRN 442905-58-0

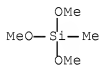
CMF C23 H28 O5 Si



CM 2

CRN 1185-55-3

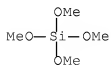
CMF C4 H12 O3 Si



CM 3

CRN 681-84-5

CMF C4 H12 O4 Si

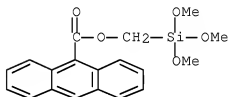


RN 442905-68-2 HCAPLUS

CN 9-Anthracenecarboxylic acid, (trimethoxysilyl)methyl ester, polymer  
with  
silicic acid (H4SiO4) tetramethyl ester and trimethoxymethylsilane  
(9CI)  
(CA INDEX NAME)

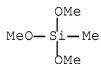
CM 1

CRN 442905-59-1  
CMF C19 H20 O5 Si



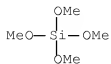
CM 2

CRN 1185-55-3  
CMF C4 H12 O3 Si



CM 3

CRN 681-84-5  
CMF C4 H12 O4 Si



RN 442905-70-6 HCAPLUS

CN 9-Anthracenecarboxylic acid, 2-(triethoxysilyl)ethyl ester, polymer  
with

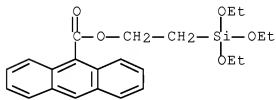
silicic acid (H<sub>4</sub>SiO<sub>4</sub>) tetraethyl ester and triethoxymethylsilane  
(9CI)

(CA INDEX NAME)

CM 1

CRN 442905-58-0

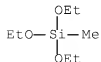
CMF C23 H28 O5 Si



CM 2

CRN 2031-67-6

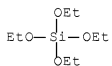
CMF C7 H18 O3 Si



CM 3

CRN 78-10-4

CMF C8 H20 O4 Si



RN 442905-71-7 HCAPLUS

CN 9-Anthracenecarboxylic acid, 3-(triethoxysilyl)propyl ester, polymer  
with

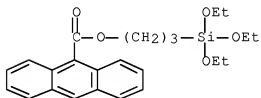
silicic acid ( $\text{H}_4\text{SiO}_4$ ) tetramethyl ester and trimethoxymethylsilane  
(9CI)

(CA INDEX NAME)

CM 1

CRN 442905-57-9

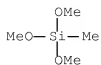
CMF C24 H30 O5 Si



CM 2

CRN 1185-55-3

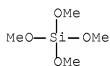
CMF C4 H12 O3 Si



CM 3

CRN 681-84-5

CMF C4 H12 O4 Si



RN 442905-73-9 HCAPLUS

CN 9-Anthracenecarboxylic acid, (tripropoxysilyl)methyl ester, polymer  
with

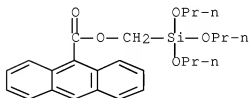
silicic acid (H4SiO4) tetramethyl ester and trimethoxymethylsilane  
(9CI)

(CA INDEX NAME)

CM 1

CRN 442905-72-8

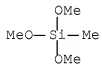
CMF C25 H32 O5 Si



CM 2

CRN 1185-55-3

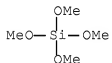
CMF C4 H12 O3 Si



CM 3

CRN 681-84-5

CMF C4 H12 O4 Si



RN 694509-47-2 HCAPLUS

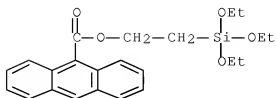
CN 9-Anthracenecarboxylic acid, 2-(triethoxysilyl)ethyl ester, polymer  
with

silicic acid (H<sub>4</sub>SiO<sub>4</sub>) tetraethyl ester, triethoxymethylsilane and  
3-(triethoxysilyl)-1-propanamine (9CI) (CA INDEX NAME)

CM 1

CRN 442905-58-0

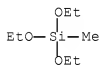
CMF C23 H28 O5 Si



CM 2

CRN 2031-67-6

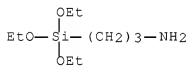
CMF C7 H18 O3 Si



CM 3

CRN 919-30-2

CMF C9 H23 N O3 Si

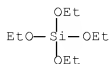


CM 4

CRN 78-10-4

CMF C8 H20 O4 Si



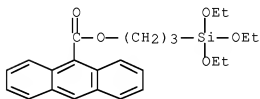


RN 694509-48-3 HCAPLUS  
 CN 9-Anthracenecarboxylic acid, 3-(triethoxysilyl)propyl ester, polymer  
 with silicic acid (H4SiO4) tetraethyl ester, triethoxymethylsilane and  
 3-(triethoxysilyl)-1-propanamine (9CI) (CA INDEX NAME)

CM 1

CRN 442905-57-9

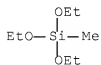
CMF C24 H30 O5 Si



CM 2

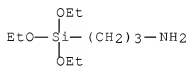
CRN 2031-67-6

CMF C7 H18 O3 Si



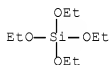
CM 3

CRN 919-30-2  
CMF C9 H23 N O3 Si



CM 4

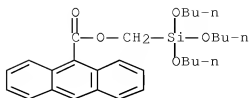
CRN 78-10-4  
CMF C8 H20 O4 Si



RN 694509-50-7 HCAPLUS  
CN 9-Anthracenecarboxylic acid, (tributoxysilyl)methyl ester, polymer  
with silicic acid (H4SiO4) tetramethyl ester and trimethoxymethylsilane  
(9CI)  
(CA INDEX NAME)

CM 1

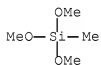
CRN 694509-49-4  
CMF C28 H38 O5 Si



CM 2

CRN 1185-55-3

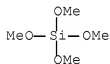
CMF C4 H12 O3 Si



CM 3

CRN 681-84-5

CMF C4 H12 O4 Si



IC ICM C08G

CC 76-3 (Electric Phenomena)

Section cross-reference(s): 74

IT 88029-70-3P, Methyltriethoxysilane-tetraethoxysilane copolymer  
 442905-62-6P, [3-(9-Anthracenylcarbonyloxy)propyl]triethoxysilane-  
 methyltriethoxysilane-tetraethoxysilane copolymer 442905-63-7P,  
 2-Hydroxy-4-[3-(triethoxysilyl)propoxy]diphenyl ketone-

methyltriethoxysilane-tetraethoxysilane copolymer 442905-69-3P,  
 (9-Anthracenylcarbonyloxymethyl)triethoxysilane-  
 methyltriethoxysilane-  
 tetraethoxysilane copolymer 694509-45-0P, 3-  
 Aminopropyltriethoxysilane-(9-  
 anthracenylcarbonyloxymethyl)triethoxysilane-  
 methyltriethoxysilane-tetraethoxysilane copolymer  
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or  
 engineered material use); PREP (Preparation); USES (Uses)  
 (antireflective silsesquioxane coatings for photolithog. in  
 fabrication  
 of semiconductor devices)

IT 113923-94-7P, Phenyltriethoxysilane-tetraethoxysilane copolymer  
 175480-92-9P, 3-Aminopropyltriethoxysilane-methyltriethoxysilane-  
 tetraethoxysilane copolymer 442905-65-9P, [5-(9-  
 Anthracenylcarbonyloxy)pentyl]triethoxysilane-methyltriethoxysilane-  
 tetraethoxysilane copolymer 442905-66-0P, (9-  
 Anthracenylcarbonyloxymethyl)triethoxysilane-methyltrimethoxysilane-  
 tetramethoxysilane copolymer 442905-67-1P, [2-(9-  
 Anthracenylcarbonyloxy)ethyl]triethoxysilane-methyltrimethoxysilane-  
 tetramethoxysilane copolymer 442905-68-2P, (9-  
 Anthracenylcarbonyloxymethyl)trimethoxysilane-methyltrimethoxysilane-  
 tetramethoxysilane copolymer 442905-70-6P, [2-(9-  
 Anthracenylcarbonyloxy)ethyl]triethoxysilane-methyltriethoxysilane-  
 tetraethoxysilane copolymer 442905-71-7P, [3-(9-  
 Anthracenylcarbonyloxy)propyl]triethoxysilane-methyltrimethoxysilane-  
 tetramethoxysilane copolymer 442905-73-9P, (9-  
 Anthracenylcarbonyloxymethyl)tripropoxysilane-methyltrimethoxysilane-  
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 Aminopropyltriethoxysilane-  
 2-hydroxy-4-[3-(triethoxysilyl)propoxy]diphenyl ketone-  
 methyltriethoxysilane-tetraethoxysilane copolymer 694509-47-2P,  
 3-Aminopropyltriethoxysilane-[2-(9-  
 anthracenylcarbonyloxy)ethyl]triethoxys  
 ilane-methyltriethoxysilane-tetraethoxysilane copolymer  
 694509-48-3P, 3-Aminopropyltriethoxysilane-[3-(9-  
 anthracenylcarbonyloxy)propyl]triethoxysilane-methyltriethoxysilane-  
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 Anthracenylcarbonyloxymethyl)tributoxysilane-methyltrimethoxysilane-  
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 Aminopropyltriethoxysilane-  
 phenyltrimethoxysilane-tetraethoxysilane copolymer 694509-52-9P,  
 3-Aminopropyltriethoxysilane-phenyltripropoxysilane-tetraethoxysilane  
 copolymer 694509-53-0P, 3-Aminopropyltriethoxysilane-  
 phenyltributoxysilane-tetraethoxysilane copolymer 694509-54-1P,  
 3-Aminopropyltriethoxysilane-4-ethoxy-4'-  
 (triethoxysilylmethoxycarbonyl)az

obenzene-methyltriethoxysilane-tetraethoxysilane copolymer 694509-56-3P,

3-Aminopropyltriethoxysilane-4-ethoxy-4'-[2-(triethoxysilyl)ethoxycarbonyl]azobenzene-methyltriethoxysilane-tetraethoxysilane copolymer 694509-58-5P, 3-Aminopropyltriethoxysilane-4-ethoxy-4'-[3-(triethoxysilyl)propoxycarbonyl]azobenzene-methyltriethoxysilane-tetraethoxysilane copolymer 694509-59-6P, 4-Ethoxy-4'-[3-(triethoxysilyl)propoxycarbonyl]azobenzene-methyltriethoxysilane-tetraethoxysilane copolymer 694509-60-9P, 3-

Aminopropyltriethoxysilane-methyltriethoxysilane-phenyltriethoxysilane-tetraethoxysilane copolymer

RL: IMF (Industrial manufacture); TEM (Technical or engineered material

use); PREP (Preparation); USES (Uses)

(antireflective silsesquioxane coatings for photolithog. in fabrication

of semiconductor devices)

L23 ANSWER 3 OF 12 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2004:80802 HCAPLUS Full-text

DN 140:137660

TI Composition and process for wet stripping removal of sacrificial antireflective material

IN Baum, Thomas H.; Bernhard, David; Minsek, David; Murphy, Melissa

PA Advanced Technology Materials, Inc., USA

SO PCT Int. Appl., 39 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	WO 2004009730	A1	20040129	WO 2003-US22148
----	---------------	----	----------	-----------------

20030716 <--

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,

TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW  
 RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,  
 BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
 ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK,  
 TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,  
 TG

US 20040016904	A1	20040129	US 2002-201340
20020723 <--			
US 6849200	B2	20050201	
AU 2003249279	A1	20040209	AU 2003-249279
20030716 <--			
EP 1551936	A1	20050713	EP 2003-765600
20030716 <--			
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC,			
PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK			
CN 1671821	A	20050921	CN 2003-817397
20030716 <--			
JP 2005533896	T	20051110	JP 2004-523443
20030716 <--			
PRAI US 2002-201340	A	20020723 <--	
WO 2003-US22148	W	20030716 <--	

AB The present invention relates to a wet stripping composition and process useful for silicate stripping, e.g., wet stripping removal of sacrificial antireflective silicate material from a substrate or article having such material deposited thereon, particularly where the sacrificial antireflective silicate material is present with permanent silicate materials desired to be unaffected by the wet stripping composition. The present invention in 1 aspect relates to a wet stripping composition comprising the following: a nitrogenous hydrofluoride; deionized H<sub>2</sub>O; organic solvent; and optionally a chelator and/or an amine/carboxylic acid buffer. The nitrogenous hydrofluoride may be of any suitable type, and comprises compds. such as NH<sub>4</sub>F and other amine hydrofluoride salts.

IT 650634-87-0  
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); TEM (Technical or engineered material use); PROC (Process);

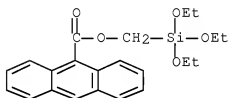
USES  
 (Uses)  
 (etching of; composition and process for wet stripping removal of sacrificial antireflective material)

RN 650634-87-0 HCAPLUS  
 CN 9-Anthracenecarboxylic acid, (triethoxysilyl)methyl ester, polymer with

silicic acid (H4SiO4) tetraethyl ester and silicic acid (H4SiO4)  
triethyl  
methyl ester (CA INDEX NAME)

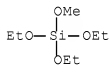
CM 1

CRN 313482-99-4  
CMF C22 H26 O5 Si



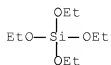
CM 2

CRN 18395-48-7  
CMF C7 H18 O4 Si



CM 3

CRN 78-10-4  
CMF C8 H20 O4 Si



IC ICM C09K013-00  
ICS H01L021-302  
CC 76-3 (Electric Phenomena)  
Section cross-reference(s): 74  
IT 78-10-4, Tetraethoxysilane 339984-98-4, Coral (barrier film)  
477961-78-7, Trikon Orion 627863-28-9, Aurora 2.7 650594-25-5,  
Duo 193  
650634-87-0 650634-88-1, Aurora 2.4  
RL: PEP (Physical, engineering or chemical process); PYP (Physical  
process); TEM (Technical or engineered material use); PROC (Process);

USES

(Uses)

(etching off; composition and process for wet stripping removal of  
sacrificial antireflective material)

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 4 OF 12 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 2001:280495 HCAPLUS Full-text

DN 134:318673

TI Positive-working photoresist composition for upper resist layer of  
composite two-layer resist

IN Uno, Seiji; Mizutani, Kazuyoshi

PA Fuji Photo Film Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 58 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2001109150	A	20010420	JP 1999-284457	

PI JP 2001109150 A 20010420 JP 1999-284457

19991005 <--

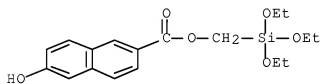
PRAI JP 1999-284457 19991005 <--

AB The title composition contains acid-sensitive polysiloxane having  
repeating unit  $\{-\text{Si}[-\text{L}-\text{X}-\text{Np}(\text{Z})\text{l}(\text{OA})\text{m}(\text{Y}-\text{L}-\text{COOB})\text{n}]\text{O}3/2-\}$  (Np =  
naphthalene ring; A, B = H, acid-sensitive group; X = single bond; L  
= C1-10 alkylene, C3-12 cycloalkylene; X, Y = -OCO-; -COO-; -NHCO-;  
etc.; Z = halo, C1-10 alkyl; C3-12 cycloalkyl; C1-10 alkoxy, etc.;  
l,m,n = 0-3 integer) and a photoacid generator. The composition,  
which contains the polysiloxane, provides the improve storageability  
and generates little faulty resist.

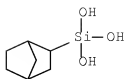
IT 335262-51-6DP, 1-alkoxyethyl and pyranil ethers



RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
 RACT (Reactant or reagent)  
 (polysiloxane in pos.-working photoresist composition)  
 RN 335262-51-6 HCAPLUS  
 CN 2-Naphthalenecarboxylic acid, 6-hydroxy-, (triethoxysilyl)methyl  
 ester,  
 homopolymer (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 335262-32-3  
 CMF C18 H24 O6 Si



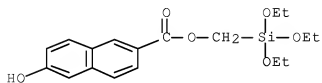
IT 335262-34-5DP, 1-alkoxyethyl ether 335262-34-5P  
 335262-45-8DP, 1-alkoxyethyl ether 335262-49-2DP,  
 1-alkoxyethyl ether 335262-53-8DP, 1-alkoxyethyl ethers  
 335262-56-1DP, 1-alkoxyethyl ether 335277-03-7P  
 335277-06-0P  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered  
 material  
 use); PREP (Preparation); USES (Uses)  
 (polysiloxane in pos.-working photoresist composition)  
 RN 335262-34-5 HCAPLUS  
 CN 2-Naphthalenecarboxylic acid, 6-hydroxy-, (triethoxysilyl)methyl  
 ester,  
 polymer with bicyclo[2.2.1]hept-2-ylsilanetriol (9CI) (CA INDEX  
 NAME)  
 CM 1  
 CRN 335262-33-4  
 CMF C7 H14 O3 Si



CM 2

CRN 335262-32-3

CMF C18 H24 O6 Si



RN 335262-34-5 HCAPLUS

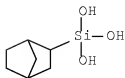
CN 2-Naphthalenecarboxylic acid, 6-hydroxy-, (triethoxysilyl)methyl ester,

polymer with bicyclo[2.2.1]hept-2-ylsilanetriol (9CI) (CA INDEX NAME)

CM 1

CRN 335262-33-4

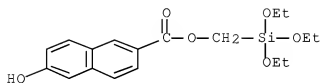
CMF C7 H14 O3 Si



CM 2

CRN 335262-32-3

CMF C18 H24 O6 Si



RN 335262-45-8 HCAPLUS

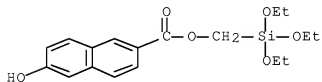
CN 2-Naphthalenecarboxylic acid, 6-hydroxy-, (triethoxysilyl)methyl ester,

polymer with cyclohexylsilanetriol (9CI) (CA INDEX NAME)

CM 1

CRN 335262-32-3

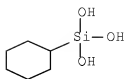
CMF C18 H24 O6 Si



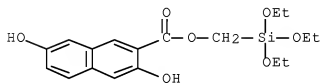
CM 2

CRN 3553-74-0

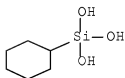
CMF C6 H14 O3 Si



RN 335262-49-2 HCAPLUS  
 CN 2-Naphthalenecarboxylic acid, 3,7-dihydroxy-, (triethoxysilyl)methyl ester, polymer with cyclohexylsilanetriol (9CI) (CA INDEX NAME)  
 CM 1  
 CRN 335262-48-1  
 CMF C18 H24 O7 Si



CM 2  
 CRN 3553-74-0  
 CMF C6 H14 O3 Si

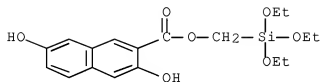


RN 335262-53-8 HCAPLUS  
 CN 2-Naphthalenecarboxylic acid, 3,7-dihydroxy-, (triethoxysilyl)methyl ester, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 335262-48-1

CMF C18 H24 O7 Si



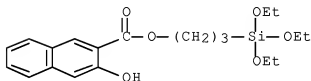
RN 335262-56-1 HCAPLUS

CN 2-Naphthalenecarboxylic acid, 3-hydroxy-, 3-(triethoxysilyl)propyl ester,  
homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 335262-55-0

CMF C20 H28 O6 Si



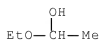
RN 335277-03-7 HCAPLUS

CN 2,6-Naphthalenedicarboxylic acid, mono[(triethoxysilyl)methyl] ester,  
homopolymer, 1-ethoxyethyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 7518-70-9

CMF C4 H10 O2



CM 2

CRN 335277-02-6

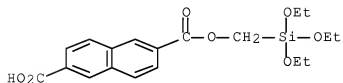
CMF (C19 H24 O7 Si)x

CCI PMS

CM 3

CRN 335277-01-5

CMF C19 H24 O7 Si



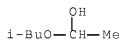
RN 335277-06-0 HCAPLUS

CN 2,3-Naphthalenedicarboxylic acid, mono[(triethoxysilyl)methyl] ester, homopolymer, 1-(2-methylpropoxy)ethyl ester (9CI) (CA INDEX NAME)

CM 1

CRN 205813-86-1

CMF C6 H14 O2

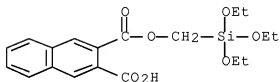


CM 2

CRN 335277-05-9  
CMF (C19 H24 O7 Si)x  
CCI PMS

CM 3

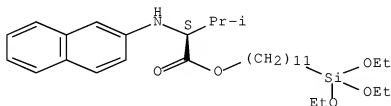
CRN 335277-04-8  
CMF C19 H24 O7 Si



IC ICM G03F007-039  
ICS C08L083-06; G03F007-075; G03F007-095; G03F007-26  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other  
Reprographic Processes)  
Section cross-reference(s): 76  
IT 335262-51-6DP, 1-alkoxyethyl and pyranil ethers  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
RACT (Reactant or reagent)  
(polysiloxane in pos.-working photoresist composition)  
IT 109-53-5DP, hydroxyaryl silsesquioxane ethers 110-87-2DP,  
hydroxyaryl  
silsesquioxane ethers 335262-24-3DP, ethers 335262-24-3P  
335262-26-5P 335262-28-7P 335262-30-1P 335262-34-5DP,  
1-alkoxyethyl ether 335262-34-5P 335262-37-8DP, ethers  
335262-39-0DP, ethers 335262-41-4DP, ethers 335262-43-6DP, ethers  
335262-45-8DP, 1-alkoxyethyl ether 335262-49-2DP,  
1-alkoxyethyl ether 335262-53-8DP, 1-alkoxyethyl ethers  
335262-56-1DP, 1-alkoxyethyl ether 335262-59-4DP, 1-alkoxyethyl  
ether 335262-61-8DP, 1-alkoxyethyl ether 335277-00-4P  
335277-03-7P 335277-06-0P 335277-08-2P 335277-10-6P  
335277-12-8P  
RL: SPN (Synthetic preparation); TEM (Technical or engineered  
material  
use); PREP (Preparation); USES (Uses)  
(polysiloxane in pos.-working photoresist composition)

AN 1992:128093 HCAPLUS Full-text  
 DN 116:128093  
 OREF 116:21667a,21670a  
 TI Effect of superfluous remote polar functionality on chiral recognition  
 AU Pirkle, William H.; Welch, Christopher J.  
 CS Sch. Chem. Sci., Univ. Illinois, Urbana, IL, 61801, USA  
 SO Journal of Chromatography (1992), 589(1-2), 45-51  
 CODEN: JOCRAM; ISSN: 0021-9673  
 DT Journal  
 LA English  
 AB During the liquid chromatog. separation of enantiomers on chiral stationary phases (CSPs), nonspecific adsorption processes diminish the observed enantioselectivity. The role of those polar groups in the analyte which are not specifically required for chiral recognition was investigated. A series of racemic analytes bearing various nonessential polar groups spatially removed from the sites of chiral recognition were synthesized and chromatog. evaluated. Four scenarios for the interaction of these remote polar groups with the CSP were considered and used to rationalize exptl. findings. Cases were observed where enantioselectivity decreased, increased or remained the same on incorporation of a remote polar group.  
 IT 99727-12-5D, reaction product with silica gel 130859-81-3D  
 , reaction product with silica gel  
 RL: PRP (Properties)  
 (chiral stationary phase, for liquid chromatog. separation of enantiomers)  
 RN 99727-12-5 HCAPLUS  
 CN L-Valine, N-2-naphthalenyl-, 11-(triethoxysilyl)undecyl ester (CA INDEX NAME)

Absolute stereochemistry.

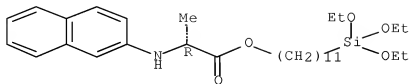


RN 130859-81-3 HCAPLUS  
 CN D-Alanine, N-2-naphthalenyl-, 11-(triethoxysilyl)undecyl ester (CA INDEX



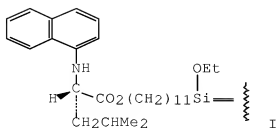
NAME)

Absolute stereochemistry.



CC 22-13 (Physical Organic Chemistry)  
Section cross-reference(s): 34, 80  
IT 90697-04-4D, reaction product with silica gel 95544-22-2D, reaction product with silica gel 99727-12-5D, reaction product with silica gel 130859-81-3D, reaction product with silica gel 139456-46-5D, reaction product with silica gel 139456-47-6D, reaction product with silica gel 139456-48-7D, reaction product with silica gel 139456-49-8D, reaction product with silica gel  
RL: PRP (Properties)  
(chiral stationary phase, for liquid chromatog. separation of enantiomers)

L23 ANSWER 6 OF 12 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 1991:680494 HCAPLUS Full-text  
DN 115:280494  
OREF 115:47687a,47690a  
TI A chiral stationary phase which affords unusually high levels of enantioselectivity  
AU Pirkle, William H.; Deming, Kris C.; Burke, John A., III  
CS Sch. Chem. Sci., Univ. Illinois, Urbana, IL, 61801, USA  
SO Chirality (1991), 3(3), 183-7  
CODEN: CHRLEP; ISSN: 0899-0042  
DT Journal  
LA English  
OS CASREACT 115:280494  
GI



AB A chiral stationary phase (CSP) I derived from N-(1-naphthyl)leucine has been prepared. This CSP is conceptually similar to the CSP derived from N-(2-naphthyl)alanine and was expected to sep. the enantiomers of the same clientele of analytes as does the latter. The magnitudes of the separation factors observed on the two CSPs may differ markedly for a given analyte, the new CSP often affording much greater enantioselectivity.

IT 130859-81-3

RL: RCT (Reactant); RACT (Reactant or reagent)  
(chiral stationary phase derived from)

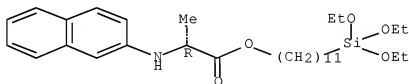
RN 130859-81-3 HCAPLUS

CN D-Alanine, N-2-naphthalenyl-, 11-(triethoxysilyl)undecyl ester (CA

INDEX

NAME)

Absolute stereochemistry.



IT 137046-42-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);

RACT

(Reactant or reagent)  
(preparation and reaction of, with silica)

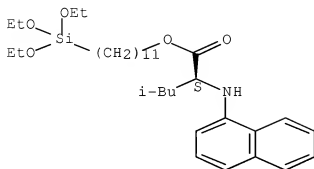
RN 137046-42-5 HCAPLUS

CN L-Leucine, N-1-naphthalenyl-, 11-(triethoxysilyl)undecyl ester (CA

INDEX

NAME)

Absolute stereochemistry.



IT 137046-42-5DP, reaction product with silica

RL: SPN (Synthetic preparation); PREP (Preparation)

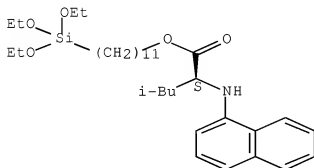
(preparation of, as chiral stationary phase for separation of enantiomers)

RN 137046-42-5 HCAPLUS

CN L-Leucine, N-1-naphthalenyl-, 11-(triethoxysilyl)undecyl ester (CA INDEX

NAME)

Absolute stereochemistry.



CC 34-2 (Amino Acids, Peptides, and Proteins)

Section cross-reference(s): 25

IT 130859-81-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(chiral stationary phase derived from)

IT 137046-42-5P  
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);

RACT  
 (Reactant or reagent)  
 (preparation and reaction of, with silica)

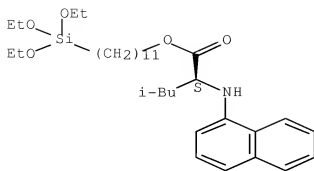
IT 137046-42-5DP, reaction product with silica  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of, as chiral stationary phase for separation of enantiomers)

L23 ANSWER 7 OF 12 HCAPLUS COPYRIGHT 2008 ACS on STN  
 AN 1991:632788 HCAPLUS Full-text  
 DN 115:232788  
 OREF 115:39705a,39708a  
 TI Fast liquid chromatography for the resolution of chiral compounds  
 AU Perrin, Scott R.  
 CS Regis Chem. Co., Morton Grove, IL, 60053, USA  
 SO Chirality (1991), 3(3), 188-95  
 CODEN: CHRLEP; ISSN: 0899-0042  
 DT Journal  
 LA English  
 AB A Pirkle-concept chiral stationary phase (CSP) derived from N-(1-naphthyl)leucine was evaluated for developing methods to reduce anal. times and investigating techniques in the rapid screening of a variety of chiral compds., e.g. N-(3,5-dinitrobenzoyl)-DL-leucine amides, over a given chiral selector. The effects of reduced column lengths and elevated temps. were studied to shorten anal. times.

IT 137046-42-5D, silica-bound  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (as chiral stationary phase for fast liquid chromatog. resolution of chiral compds.)

RN 137046-42-5 HCAPLUS  
 CN L-Leucine, N-1-naphthalenyl-, 11-(triethoxysilyl)undecyl ester (CA INDEX NAME)

Absolute stereochemistry.



CC 34-2 (Amino Acids, Peptides, and Proteins)  
 IT 137946-42-5D, silica-bound  
 RL: RCT (Reactant); RACT (Reactant or reagent)  
 (as chiral stationary phase for fast liquid chromatog. resolution  
 of chiral  
 compds.)

L23 ANSWER 8 OF 12 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1991:573805 HCAPLUS [Full-text](#)

DN 115:173805

OREF 115:29443a,29446a

TI The influence of end-capping on the enantioselectivity of a chiral  
 phase

AU Pirkle, W. H.; Readnour, R. S.

CS Sch. Chem. Sci., Univ. Illinois, Urbana, IL, 61801, USA

SO Chromatographia (1991), 31(3-4), 129-32

CODEN: CHRGB7; ISSN: 0009-5893

DT Journal

LA English

AB The effect of end-capping chiral stationary phases derived from N-(2-naphthyl)alanine undecyl ester has been examined using either trimethylchlorosilane (TMCS), hexamethyldisilazane (HMDS), or bis(trimethylsilyl)trifluoroacetamide (BSTFA) as end-capping reagents. The separation factor ( $\alpha$ ) and capacity factor ( $k'$ ) of the enantiomers of N-(3,5-dinitrobenzoyl)leucine octadecyl amide and N-(3,5-dinitrobenzoyl)alanine Bu ester were evaluated on three columns all packed with material from the same batch of stationary phase. These columns were essentially identical before, but not after end-capping with the above reagents. TMCS and HMDS were found to be superior to BSTFA, which appears to cause a significant loss of bonded phase from the silica surface. It seems that residual silanols affect the retention either by interacting with the analyte or by interacting with strands of stationary phase. End-capping

usually increases enantioselectivity, sometimes by decreasing  $k'$  for the first enantiomer and increasing  $k'$  for the second enantiomer. The enhancement in enantioselectivity is greatest in relatively nonpolar mobile phases and occurs to a greater extent for phases having incomplete surface coverages.

IT 104336-53-0D, derivs.

RL: ANST (Analytical study)

(as chiral stationary phase, in liquid chromatog. separation of enantiomers)

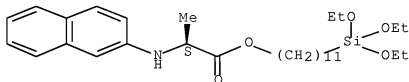
RN 104336-53-0 HCAPLUS

CN L-Alanine, N-2-naphthalenyl-, 11-(triethoxysilyl)undecyl ester (CA

INDEX

NAME)

Absolute stereochemistry.



CC 80-3 (Organic Analytical Chemistry)

Section cross-reference(s): 34

IT 75-77-4D, Trimethylchlorosilane, reaction products with triethylamine and

naphthylalanine derivs. 121-44-8D, Triethylamine, reaction products with

trimethylchlorosilane and naphthylalanine derivs. 999-97-3D, Hexamethyldisilazane, reaction products with naphthylalanine derivs. 25561-30-2D, Bis(trimethylsilyl)trifluoroacetamide, reaction products

with naphthylalanine derivs. 104336-53-0D, derivs.

RL: ANST (Analytical study)

(as chiral stationary phase, in liquid chromatog. separation of enantiomers)

L23 ANSWER 9 OF 12 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1991:12758 HCAPLUS [Full-text](#)

DN 114:12758

OREF 114:2227a,2230a

TI Chromatographic approach to the measurement of the interstrand distance

for some chiral bonded phases

AU Pirkle, William H.; Readnour, Robin S.  
 CS Sch. Chem. Sci., Univ. Illinois, Urbana, IL, 61801, USA  
 SO Analytical Chemistry (1991), 63(1), 16-20  
 CODEN: ANCHAM; ISSN: 0003-2700

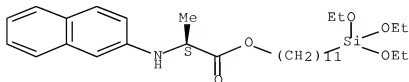
DT Journal  
 LA English

AB A series of homologous N,N'-bis(2,4-dinitrophenyl)- $\alpha,\omega$ -diaminoalkanes (di-DNP) was chromatographed at various temps. on  $\pi$ -basic chiral stationary phases derived from N-(2-naphthyl)alanine to determine the enthalpy and entropy of adsorption. The number of CH<sub>2</sub> groups in the di-DNP influences the ability of the terminal  $\pi$ -acidic groups to interact simultaneously with neighboring strands of stationary phase, a process termed "bridging". When the number of CH<sub>2</sub> groups is optimal for bridging, the enthalpy of adsorption is most exothermic. The length of the dianalyte required for optimal bridging is related to the interstrand distance. Optimal bridging occurs for the di-DNP having 5 CH<sub>2</sub> groups regardless of the extent of surface coverage of the silica for the surface coverage range investigated. This suggests that the strands are not randomly spaced on the silica, with interstrand distance being influenced only by surface coverage, but are instead clustered, the clusters having similar distributions of interstrand distances. Adsorption is more exothermic for phases of high surface coverages than for low. If interstrand spacing is independent of surface coverage but surface coverage affects the enthalpy of adsorption, then surface coverage must influence the cluster size, which then influences the average extent of solvation of a strand of bonded phase.

IT 104336-53-0D, reaction products with silica gel  
 130859-81-3D, reaction products with silica gel  
 RL: PRP (Properties)  
 (surface, chromatog. chiral bonded phase, interstrand distance of)

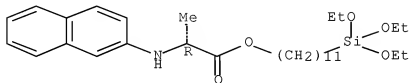
RN 104336-53-0 HCAPLUS  
 CN L-Alanine, N-2-naphthalenyl-, 11-(triethoxysilyl)undecyl ester (CA  
 INDEX  
 NAME)

Absolute stereochemistry.



RN 130859-81-3 HCAPLUS  
CN D-Alanine, N-2-naphthalenyl-, 11-(triethoxysilyl)undecyl ester (CA  
INDEX  
NAME)

Absolute stereochemistry.



CC 66-4 (Surface Chemistry and Colloids)  
Section cross-reference(s): 22, 69  
IT 104336-53-0D, reaction products with silica gel  
130859-81-3D, reaction products with silica gel  
RL: PRP (Properties)  
(surface, chromatog. chiral bonded phase, interstrand distance of)

L23 ANSWER 10 OF 12 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 1987:226783 HCAPLUS [Full-text](#)  
DN 106:226783  
OREF 106:36589a,36592a  
TI Direct chromatographic separation of enantiomeric diol derivatives  
AU Pirkle, W. H.; Mahler, George S.; Pochapsky, Thomas C.; Hyun, Myung  
Ho  
CS Sch. Chem. Sci., Univ. Illinois, Urbana, IL, 61801, USA  
SO Journal of Chromatography (1987), 388(2), 307-14  
CODEN: JOCRAM; ISSN: 0021-9673  
DT Journal  
LA English  
AB The enantiomers of a variety of aliphatic and alicyclic vicinal diols, derivatized as the bis(3,5-dinitrophenyl carbamates), were separated by liquid chromatog. on chiral stationary phases derived from either (R)-N-(2-naphthyl)alanine or an (R)-N-acylated  $\alpha$ -aryl- $\alpha$ -aminoalkane. The technique has utility not only for anal. detns. of enantiomeric purity and absolute configuration but also for preparative sepn. since the diols can be easily recovered from the separated derivs. Chiral recognition mechanisms are presented to account for the observed sepn.  
IT 104336-53-0D, reaction products with silica gel  
RL: ANST (Analytical study)  
(as stationary phases, in liquid chromatog. separation of



enantiomeric diols

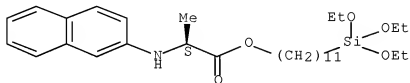
as dinitrophenyl carbamate derivs.)

RN 104336-53-0 HCAPLUS

CN L-Alanine, N-2-naphthalenyl-, 11-(triethoxysilyl)undecyl ester (CA  
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NAME)

Absolute stereochemistry.



CC 80-4 (Organic Analytical Chemistry)

Section cross-reference(s): 23, 24

IT 95544-22-2D, reaction products with silica gel 104336-53-0D,  
reaction products with silica gel

RL: ANST (Analytical study)

(as stationary phases, in liquid chromatog. separation of  
enantiomeric diols

as dinitrophenyl carbamate derivs.)

L23 ANSWER 11 OF 12 HCAPLUS COPYRIGHT 2008 ACS on STN

AN 1987:137657 HCAPLUS Full-text

DN 106:137657

OREF 106:22447a,22448a

TI Useful and easily prepared chiral stationary phases for the direct  
chromatographic separation of the enantiomers of a variety of  
derivatized

amines, amino acids, alcohols, and related compounds

AU Pirkle, William H.; Pochapsky, Thomas C.; Mahler, George S.; Corey,  
Debbi

E.; Reno, Daniel S.; Alessi, Donna M.

CS Sch. Chem. Sci., Univ. Illinois, Urbana, IL, 61801, USA

SO Journal of Organic Chemistry (1986), 51(25), 4991-5000

CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA English

OS CASREACT 106:137657

AB Chiral stationary phases (CSPs) derived from 10-undecenyl esters of  
N-(2-naphthyl)- $\alpha$ -amino acids were prepared from readily available  
enantiomerically pure  $\alpha$ -amino acids. Such CSPs are useful for the

chromatog. separation of the enantiomers of a variety of functionalized chiral mols. including many amines, alcs.,  $\alpha$ - and  $\beta$ -amino acids, and related compds., all as their 3,5-dinitrobenzamides, (3,5- dinitroanilino)ureas, or (3,5-dinitroanilino)carbamates. Separability factors exceeding 18 at room temperature were observed in some instances. A simple chiral recognition model is proposed to account for the remarkable regular order of elution of enantiomers from these CSPs.

IT 99727-12-5P 104336-53-0P

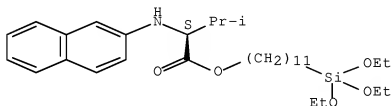
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and immobilization on silica gel)

RN 99727-12-5 HCAPLUS

CN L-Valine, N-2-naphthalenyl-, 11-(triethoxysilyl)undecyl ester (CA

INDEX  
NAME)

Absolute stereochemistry.

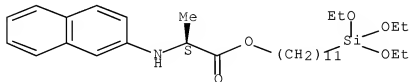


RN 104336-53-0 HCAPLUS

CN L-Alanine, N-2-naphthalenyl-, 11-(triethoxysilyl)undecyl ester (CA

INDEX  
NAME)

Absolute stereochemistry.



CC 21-2 (General Organic Chemistry)

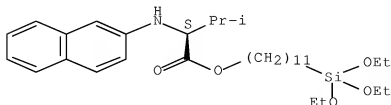
Section cross-reference(s): 34, 48

IT 99727-12-5P 104336-53-0P

RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation and immobilization on silica gel)

L23 ANSWER 12 OF 12 HCAPLUS COPYRIGHT 2008 ACS on STN  
AN 1986:88951 HCAPLUS Full-text  
DN 104:88951  
OREF 104:14135a,14138a  
TI A new, easily accessible reciprocal chiral stationary phase for the chromatographic separation of enantiomers  
AU Pirkle, W. H.; Pochapsky, Thomas C.  
CS Sch. Chem. Sci., Univ. Illinois, Urbana, IL, 61801, USA  
SO Journal of the American Chemical Society (1986), 108(2), 352-4  
CODEN: JACSAT; ISSN: 0002-7863  
DT Journal  
LA English  
OS CASREACT 104:88951  
AB A chiral stationary phase (CSP) consisting of (S)-(-)- $\omega$ -siloxundecanyl N-(2-naphthyl)valinate covalently linked to microparticulate silica is effective for the direct chromatog. separation of the enantiomers of chiral amine and amino acid 3,5-dinitrobenzamides, 3,5-dinitroanilino carbamates derived from chiral alcs. and thiols, and chiral amines as their 3,5-dinitroanilino urea derivs. Twenty resols. are presented. The CSP may be synthesized from L-valine. Chromatog. efficiencies are comparable to typical HPLC silica-bonded phases, and the CSP can be used in either a normal or reverse-phase fashion.  
IT 99727-12-5P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
RACT (Reactant or reagent)  
(preparation and reaction of, with silica)  
RN 99727-12-5 HCAPLUS  
CN L-Valine, N-2-naphthalenyl-, 11-(triethoxysilyl)undecyl ester (CA  
INDEX  
NAME)

Absolute stereochemistry.



CC 34-2 (Amino Acids, Peptides, and Proteins)  
Section cross-reference(s): 80  
IT 99727-12-5P  
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);  
RACT (Reactant or reagent)  
(preparation and reaction of, with silica)